

FIG.2

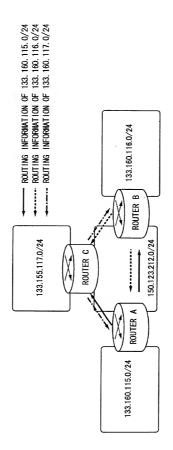


FIG.3

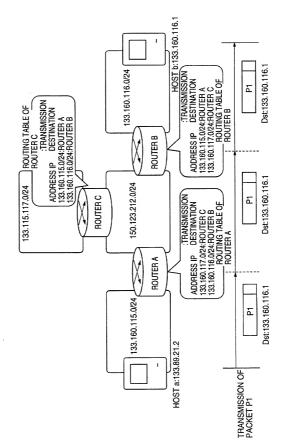
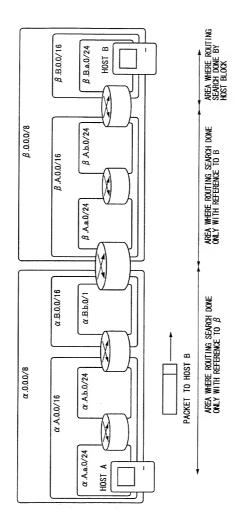


FIG.4



3 13	8	2 4	16	64 bits
FP TLA	RES	NLA	SLA	Interface ID
ID		ID	ID	

001 Format Prefix (3 bit) for Aggregatable Global

Unicast Adderss

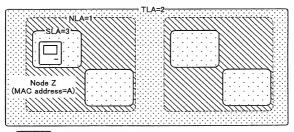
TLA ID Top-Level Aggregation Identifier

RES Reserved for future use

NLA ID Next-Level Aggregation Identifier
SLA ID Site-Level Aggregation Identifier

INTERFACE ID Interface Identifier

FIG.6



HIERARCHY OF TLA LEVEL

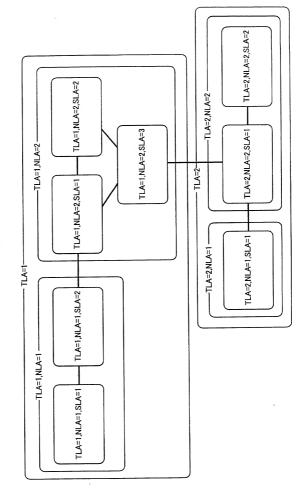
HIERARCHY OF NLA LEVEL

HIERARCHY OF SLA LEVEL

3 13	8	2 4	16	64 bits
FP TLA	RES	NLA	SLA	Interface ID
ID		ID	ID	=A
=2		=1	=3	
+	++		+	

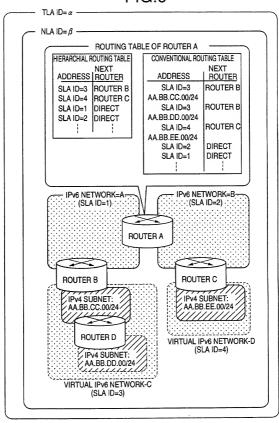
IP ADDRESS OF NODE 2

FIG.7



80 bits	16	32 bits
00000000	0000	IPv4 address

FIG.9



3 13 8	2 4	1 6	64 bits
FP TLA RES	NLA	SLA	Interface ID
	ID	ID	All 0

IPv6 NETWORK ADDRESS

3 13 8	2 4	16	64 bits
FP TLA RES	NLA	SLA	Interface ID
ID	ID	ID	32bit=0, AA.BB.CC.0

IPv4 NETWORK ADDRESS

3	13	8	24	16	64 bits
FP	TLA ID	RES	NLA ID	SLA ID	Interface ID Layer2 address
1		1			

IPv6 HOST ADDRESS

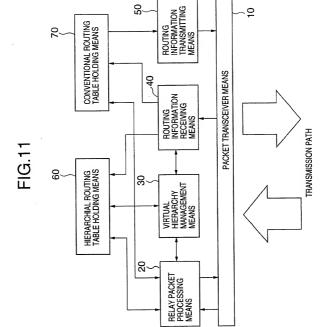


FIG.12

PACKET FLOW

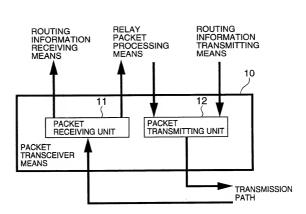


FIG.13

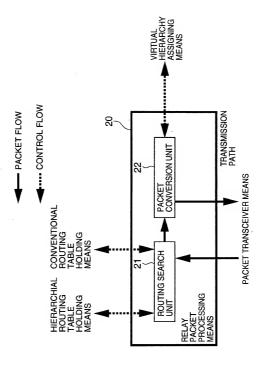


FIG.14

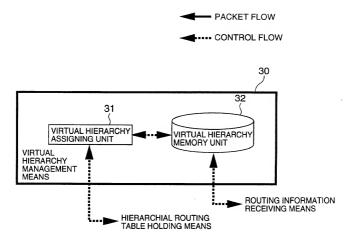


FIG.15

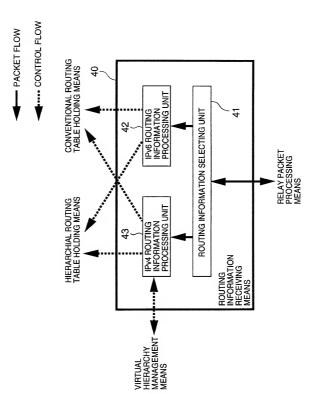


FIG.16

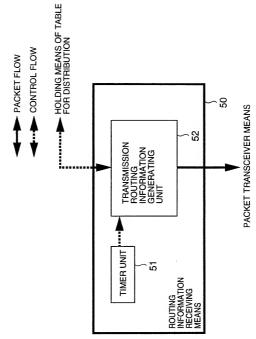
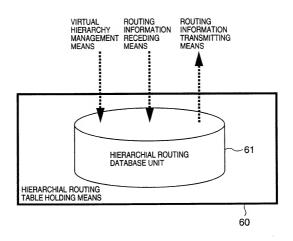
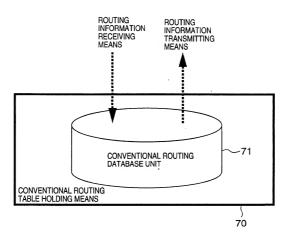


FIG.17

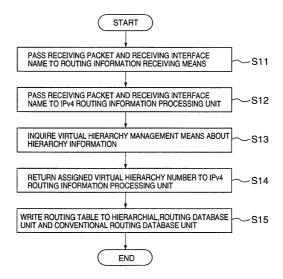


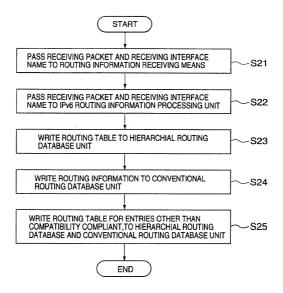
CONTROL FLOW

FIG.18



CONTROL FLOW





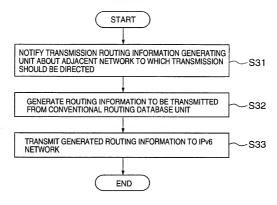
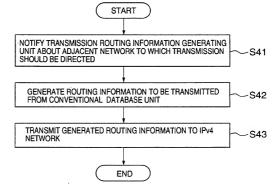


FIG.22



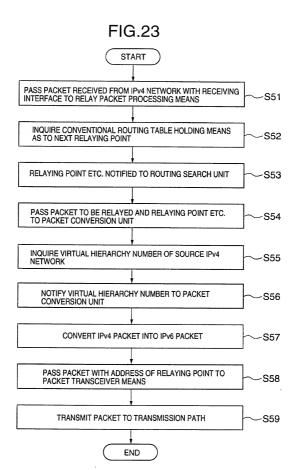
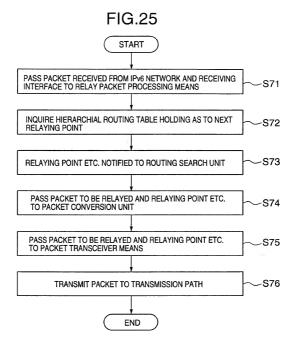
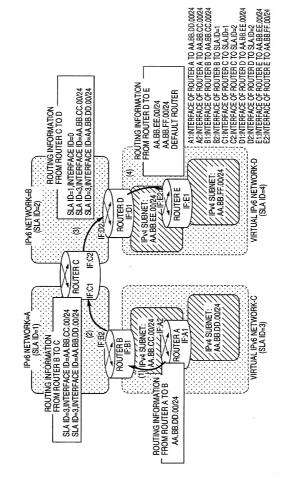


FIG.24 START PASS PACKET RECEIVED FROM IPv6 NETWORK AND RECEIVING S61 INTERFACE TO RELAY PACKET PROCESSING MEANS INQUIRE HIERARCHIAL ROUTING TABLE HOLDING MEANS S62 AS TO NEXT RELAYING POINT NOTIFY ROUTING SEARCH UNIT THAT RELAYING POINT S63 IS IPv4 INQUIRE CONVENTIONAL ROUTING TABLE HOLDING MEANS -S64 AS TO NEXT RELAYING POINT NOTIFY ROUTING SEARCH UNIT ABOUT NEXT RELAYING. S65 POINT AND TRANSMISSION INTERFACE NAME PACKET TO BE RELAYED AND INFORMATION OF S65 S66 NOTIFIED TO PACKET CONVERSION MEANS S67 EXTRACT IPv4 ADDRESS AND GENERATE IPv4 PACKET PACKET AND ADDRESS OF RELAYING POINT PASSED TO S68 PACKET TRANSCEIVER MEANS TRANSMIT PACKET TO TRANSMISSION PATH S69

END





ROUTING TABLE OF ROUTER B

HIERARCHIAL ROUTING TABLE				
ADDRESS	NEXT ROUTER			
SLA ID=3 SLA ID=1	IPv4 DIRECT(B2)			
52 (15-1	DITLOT(DE)			

CONVENTIONAL ROUTING TABLE NEXT **ADDRESS** ROUTER SLA ID=3 DIRECT(B1) AA.BB.CC.00/24 SLA ID=3 DIRECT A(B1) AA.BB.DD.00/24 SLA ID=1 DIRECT (B2)

TRANSMISSION INTERFACE NAME IN PARENTHESIS

FIG.28

TABLE GENERATED BASED ON ROUTING INFORMATION FROM ROUTING TABLE OF ROUTER C ROUTER B

HIERARCHIAL	ROUTING TABLE
l .	, NEXT
ADDRESS	ROUTER
	ROUTER B(C1)
SLA ID=1	DIRECT(C1)
SLA ID=2	DIRECT(C2)
OD NID-2	D(DL)
L	

TRANSMISSION INTERFACE NAME IN PARENTHESIS

SLA ID=2 SLA ID=1

ADDRESS

SLA ID=3 ROUTER B(C1) AA.BB.CC.00/24 SLA ID=3 ROUTER B(C1) AA.BB.DD.00/24 DIRECT A(C2) DIRECT (C1)

CONVENTIONAL ROUTING TABLE NEXT

ROUTER

TABLE GENERATED BASED ON ROUTING TABLE OF ROUTER D ROUTING INFORMATION FROM ROUTER C

HIERARCHIAL ROUTING TABLE NEXT ADDRESS ROUTER	CONVENTIONAL ROUTING TABLE NEXT ADDRESS ROUTER
SLA ID=3 ROUTER C(D2) SLA ID=1 DIRECT C(D2) SLA ID=2 DIRECT(D2) SLA ID=4 IPv4(D1)	SLA ID=3 ROUTER C(D2) AA BB.CC.00/24 SLA ID=3 ROUTER C(D2) AA BB.DD.00/24 SLA ID=1 ROUTER C(D2)
TRANSMISSION INTERFACE NAME IN PARENTHESIS	SLA ID=2 DIRECT(D2) SLA ID=4 DIRECT(D1) AA.BB.EE.00/24

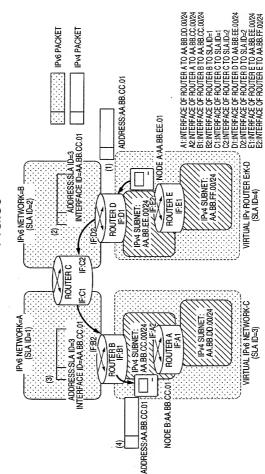


FIG.30

ROUTING TABLE OF ROUTER D MATCHED ENTRY IN ROUTING SEARCH					
HIERARCHIAL ROUTING TABLE NEXT ADDRESS ROUTER	CONVENTIONAL ROUTING TABLE NEXT ADDRESS ROUTER				
SLA ID=3 ROUTER C(D2) SLA ID=1 ROUTER C(D2)	SLA ID=3 ROUTER C(D2) AA BB CC 00/24				
SLA ID=2 DIRECT(D2) SLA ID=4 IPv4(D1)	SLA ID=3 ROUTER C(D2) AA.BB.DD.00/24				
TRANSMISSION INTERFACE	SLA ID=1 ROUTER C(D2) SLA ID=2 DIRECT(D2) SLA ID=4 DIRECT(D1)				
NAME IN PARENTHESIS	AA.BB.EE.00/24				

FIG.32

ROUTING TABLE OF ROUTER C

HIERARCHIAL ROUTING TABLE NEXT ADDRESS ROUTER	CONVENTIONAL ROUTING TABLE NEXT ADDRESS ROUTER
SLA ID=3 ROUTER B(C1)	SLA ID=3 ROUTER B(C1) AA.BB.CC.00/24
SLA ID=2 DIRECT(C2)	SLA ID=3 ROUTER B(C1)
	AA.BB.DD.00/24 SLA ID=2 DIRECT(C2)
TRANSMISSION INTERFACE NAME IN PARENTHESIS	SLA ID=1 DIRECT(C1)

FIG.33

ROUTING TABLE OF ROUTER B

